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# Self-Directed Learning in Trial FutureLearn courses

Inge de Waard, Agnes Kukulska-Hulme, Mike Sharples  
[ingedewaard@gmail.com](mailto:ingedewaard@gmail.com), [agnes.kukulska-hulme@open.ac.uk](mailto:agnes.kukulska-hulme@open.ac.uk), & [mike.sharples@open.ac.uk](mailto:mike.sharples@open.ac.uk), The Open University, United Kingdom

**Abstract:** Self-Directed Learning (SDL) in Massive Open Online Courses (MOOC) is gaining interest, as online learning is increasingly learner-centred and autonomous. Most SDL research starts from the premise that SDL happens more frequently in connectivism MOOC (cMOOC) than in the more instructor-led MOOCs. In this study the authors look at SDL experiences from learners enrolled in two MOOC courses during the early trials of the FutureLearn platform. The meaning and experiences of the phenomenon of being enrolled as a learner in FutureLearn was gathered through various research instruments (online survey, learning logs, one-on-one interviews). The resulting data was collected pre-, during, and post-course. The key categories for each sub-question of the research are shared in the results and analysis section. This study concluded that SDL is indeed taking place in FutureLearn courses, which points towards SDL happening beyond the connectivist MOOCs.

## Introduction

In this study the authors look at Self-Directed Learning (SDL) experiences from learners enrolled in two trial (= invitation only) FutureLearn courses. This paper offers an account of the study by providing a brief overview of SDL and Massive Open Online Course (MOOC) literature to point out research gaps. In the following sections the research questions and the used methodology are described. While sharing the key categories that emerged from the data analysis, this study provides insights into the SDL that has taken place in the two trial FutureLearn courses.

## Literature review

The literature study starts with the concept of SDL as used in this study, after which a brief account is given of the major elements of SDL as they are proposed in current literature in relationship to contemporary online learning: multiple learner contexts, technology & mobility, individual & collaborative learning, and SDL research as perceived to be happening in the first connectivist MOOC and into the broad realm of MOOC platforms by previous researchers.

## Self-Directed Learning (SDL)

The concept of SDL as investigated in this study relates to research into adult learning by Merriam (2001), based on the andragogy concept of Knowles (1975), and it adds technology as an influencing factor for SDL. Knowles (1975) described self-directed learning broadly as “a process in which individuals take the initiative, with or without the help of others, to diagnose their learning needs, formulate learning goals, identify resources for learning, select and implement learning strategies, and evaluate learning outcomes” (p. 18). Knowles (1975) also provided the following characteristics for SDL: (a) self-directed learning assumes that humans grow in capacity and need to be self-directing; (b) learners' experiences are rich resources for learning; (c) individuals learn what is required to perform their evolving life tasks; (d) an adult's natural orientation is task or problem-centered learning; (e) self-directed learners are motivated by various internal incentives, such as need for self-esteem, curiosity, desire to achieve, and satisfaction of accomplishment.

SDL has been linked to online learning. Garrison's (1997) model of SDL includes the perspectives of SDL as a personal attribute as well as a learning process involving online learning. The fact that MOOCs can be learner-centered (Kop, Fournier & Mak, 2011; Siemens, 2012; Sharples, 2013; Downes, 2013) also adds to the SDL in online learning, as researchers suggest that such online learning can give more control of the instruction to the learners (Garrison, 2003; Gunawardena & McIssac, 2003). The actual amount of liberty given to the learners in terms of content creation, course participation, interactions, and room for topic emergence (i.e. learner-centered options) depends on the pedagogical approach accompanying the MOOC. An interesting addition is also given by Song and Hill (2007) who built a conceptual model for understanding SDL in online environments. They looked at SDL in relation to the online context and how this context influences the amount of control that is given to (or expected of) learners, and how it also impacts a learner's perception of his or her level of self-direction.

This possible reciprocal influence of the online context with SDL is of interest to this study and the sub-questions investigate whether or not personal context (e.g. life, technology) influences SDL.

## Multiple learner contexts

In her 2005 research of everyday mobile adult learning for the MOBILearn project, Vavoula found that 49% of the reported learning episodes took place away from home or the learner's own office. Vavoula concluded that

there was no consistent relation between the topic of learning and the location of learning, but learning did occur in multiple learner contexts. Those multiple contexts arise due to the mobility of the learner. Vavoula's (2005) study which was based on personal diaries kept by the adult learners showed that people create settings for learning out of technology or resources that are ready-to-hand. The research of Song & Hill (2007) introduced a research-based conceptual model for understanding SDL in an online learning context. Song and Hill mentioned that "we do not have an adequate understanding of the impact of a specific learning context (i.e. physical classroom instruction, a web-based course, a computer-based instructional unit) on self-direction" (Song & Hill, 2007, p. 29). Kop and Fournier's (2011) connectivist MOOC study researching the Personal Learning Environments, Networks and Knowledge (PLENK) course related to the mLearning and online learning results to the fact that learning happens outside of the learner's home or office as mentioned by Vavoula (2005) and Song & Hill (2007). Kop and Fournier found that the most important restricting factors to participation in the PLENK MOOC were issues outside the course, related to people's everyday lives, such as time, job, family, and other commitments, which was true for 80.6% of respondents to the lurkers (non-interacting, consuming learners) survey. As such learner's daily contexts spanning both the professional and personal realm, need to be examined for their SDL experiences, and from Vavoula's research the idea of diaries (or learning logs) seemed to be a good way to map the learner contexts, as well as their learning preferences and actions.

### **Technology and learner mobility.**

FutureLearn is designed for access with multiple devices by learners from different contexts (Sharples, 2013). The use of multiple devices brings along challenges for the learner with regard to their contexts (Vavoula, 2005; Song & Hill, 2007), as well as their mobile and technological skills (Sharples, Taylor & Vavoula, 2007), and these skills have a bearing on the social interactions with other learners or with a MOOC's course (de Waard, 2013). As such technology and location are elements that might influence SDL as they are part of the learning process, and they are part of the research sub-questions.

### **Individual and collaborative learning**

The realities of today's global online learning represent a significant shift in comparison with the previous generation of online learning: "new technologies have changed the educational landscape. It is now possible for self-directed learners to participate informally in learning events on open online networks, such as in Massive Open Online Courses" (Kop & Fournier, 2011, p. 3). But rightly so, Kop & Fournier immediately added that this "raises new challenges and opportunities for the self-directed learner, who might no longer be able to call on a trusted educator for support in his or her learning endeavor" (p. 3), the learners will become more self-dependent, more autonomous. With the new structures and environments in place where people can learn autonomously, one might question if people will be able to do so effectively (Kop & Bouchard, 2011), and they point to the need for a more in-depth understanding of SDL in MOOC.

Learning is also no longer limited to the individual. Although learning itself is seen as learner-centred, there are more social spaces to connect with peers. The need for SDL in online learning is picked up by Song & Hill (2007). They mention that "students need to have a high level of self-direction to succeed in online learning environment" (p. 29) and they proceed to state that "successful learning in every learning environment involves the use of effective learning strategies" (p. 34), developing learning strategies is an important part of SDL. A reference is also made to the level of learner responsibility "for seeking assistance is also much more centered with the learner since they are directly involved in monitoring the process, and seeking resources to improve the situation as needed" (p. 36). Reaching successful autonomous learning is also an important factor of SDL concluded from the research by Milligan, Margaryan, and Littlejohn (2013). And although turning to peers, external content, or tools for help is an option, in the end this can pose a problem for some individual learners, as this implies overcoming potentially personal or psychological barriers (personal character, identity, self-esteem, views on technology, ego, language) as emerged from the de Waard (2013) study. This means that individual, as well as collaborative learning needs to be investigated through the research sub-questions, as part of the overall SDL study.

### **SDL across the MOOC spectrum**

One of the ongoing discussions around MOOCs focus on models that provide learners more control in the roll-out or conceptualization of the course (these MOOC are mostly described as connectivist or cMOOCs), and MOOCs that provide less learner control, and offer a more instructor-led MOOC model as described by Rodriguez (2012).

While Siemens (2005) in his ground-breaking work on connectivist theory mentioned that emphasis is placed on distributed, self-led exploration of topics, rather than on the expertise of authorities in connectivist MOOC; it is the intention of the authors of this paper that SDL can happen in every type of MOOC, as the learner is at the centre of his/her own learning, and as such directs their own learning to their own perceived needs and preferences. Ross, Sinclair, Knox, Bayne, and Macleod (2014) proposed that "cMOOCs, express the

goal of education differently from xMOOCs – not access to expert knowledge, but facilitating self-directed learning”. The authors feel that if learners are allowed to dip-in and out of MOOC, if their self-efficacy allows them to choose what they need from a MOOC, and generally adapt or direct their learning in order to achieve personal learning success, than SDL is used and reached no matter which type of MOOC, or even which type of online learning is chosen. With the learner at the helm of their learning, SDL comes into place and happens.

Fournier, Kop, and Durand (2014) mentioned that “in an open online learning environment, the control of learning no longer rests with an educational institution but with the learners themselves” (p. 2). This is interpreted by the authors of this paper to point towards the SDL enabling factor of open, online learning environments, no matter which category they belong to (xMOOC, cMOOC, pMOOC...).

Clow (2013) suggested that complete or temporary withdrawal of learners from MOOCs may reflect self-directed learners choice to ‘climb-out’ (rather than drop-out) and this mirrors these learners’ variable levels of activity over the MOOC duration. This jumping in and out of the MOOC was also noted by Bentley et al. (2014) who stated that “self-directed adaptation of the course pathway and/or content characterizes the strategies of all these learners who maintained activity for some of the time, at some level, during the oldsMOOC” (p. 23), but which did not mean that learners were active all the time. This idea offers another interpretation of drop-out, and one that seems more accurate than the old paradigm of ‘drop-out’ which has its historic basis in the classic curriculum based and evaluated learning. This new interpretation of temporary climbing out of a course as a result of self-directed learning strategies, can fit all MOOC learning, as the learner can easily look up the full program of the MOOC and decide to follow or leave specific weeks or sub-topics based on their previous knowledge, or simply based on their interest or self-directed learning strategy. So early exit can be an indication of SDL, but it could also be an indication of failure to self-direct and manage personal time and resources. So drop-out is neither a firm indicator of SDL, nor is it an indicator of the opposite.

Learner success is a very personal concept in SDL, as often no standardised curriculum or assessment is provided to measure success. In the study on signals of success and self-directed learning described by Bentley et al. (2014) OldsMOOC, a connectivist MOOC on learning design run in 2013 was analysed for self-directed learning success. Bentley et al. (2014) do point to the multiple interpretation of MOOC success based on the interviews and their own experience, and they conclude that they “intended to learn different things and differently adapted the experience to meet their context and their needs” (p. 22).

Taken into account the previous SDL research, it becomes clear that it is mostly focused on SDL in cMOOCs, this leaves a research gap for SDL in the broader range of MOOCs, such as the FutureLearn courses.

Reading through the literature it becomes clear that various elements seem to be part of the overall online SDL experience. But the research also indicates that there is a research gap concerning SDL, especially of SDL which might or might not take place in what is generally described as non-cMOOCs. FutureLearn courses offer a broad range of pedagogies (e.g. social learning, instructor-led learning,...) which makes them an interesting learning environment for investigating SDL. Especially as a range of learning factors are described in the literature as being part of SDL: the influence of daily life (personal and professional), technology, individual and collaborative learning, actions taken by the learners to self-direct their learning, and the perception of learning success.

## Research questions

From the literature two research gaps appear: the need for a more in-depth investigation in self-directed learning by online learning participants covering different contexts, learning interactions, and technologies; and the need for research into SDL in non-cMOOCs, which also comprises the FutureLearn platform.

From these research needs the following research question were chosen for further study by the authors:

- What are the learning experiences of adult participants engaging in individual and collaborative self-directed learning using multiple devices in a FutureLearn course?

The central question is broken down in 4 sub-questions related to different sections that represent possible experiences of significance to the participants engaged in FutureLearn courses:

1. What are the elements of daily life affecting the learning experience?
2. What are the technical aspects influencing learning experiences for learners?
3. How do the MOOC participants perceive the effect of individual or collaborative learning on their SDL?
4. Which actions (if any) did the learners undertake to adapt their learning?

## Methodology: Combining phenomenology and grounded theory

As this study focuses on new research investigating SDL in FutureLearn courses, it was necessary to choose an exploratory methodology. After careful consideration, two methodologies were chosen in a sequential order to plan and analyse this study. In order to plan the study, a phenomenological methodology was used to organize the different stages of questioning the learners, and to set up research instruments. Once the data was collected a

grounded theory (GT) approach was chosen to analyse the data (Charmaz, 2006). The combination of setting up a study relying on a phenomenological rationale to plan the study, and then letting it be followed by a grounded theory approach to analyse the data was based upon complimentary characteristics of both methodologies (Creswell, 2006). One of the complimentary characteristics is that both phenomenology and GT fit research looking for meaning as perceived by the research subjects. Phenomenology is a methodology which fits research that investigates the meaning individuals give to a phenomenon (e.g. learning experiences), whereas GT permits data like learning experiences to be analysed.

## Data collection

This study uses elicited data (research participants sharing written, digitally delivered, and audio data). In order to obtain meaningful data of the SDL experiences, the research consisted of three phases:

- Phase 1 – expectations (pre-course): gathering the expectations of the FutureLearn participants by collecting data through an online survey delivered to all study participants two weeks in advance.
- Phase 2 – keeping learning logs (during course): participants kept two learning logs: a weekly log looking at the overall learning evolutions; and a daily learning log filled in for each day a participant engaged in the course, and which probed for actual learning experiences.
- Phase 3 – reflections (post-course): structured one-on-one interviews. The interviews investigated differences between the learning expectations and the actual experiences in regard to SDL as they are perceived by the FutureLearn participants.

This type of approach goes back to Schön (1984). Schön was credited with bringing reflective practice to professionals as an evaluative process related to professional development using: reflection-in-action (in this case during the course) and reflection-on-action (in this case post-course). Thompson and Thompson (2008) added another dimension to the Schön practice called reflection-for-action (pre-course). Using this 3-step approach fits this study as during all the phases the learners will gain additional insights into their SDL, which will translate into possible new meanings regarding their SDL.

## Data analysis

The study used a mixed method approach, where the quantitative data coming from the closed questions in the online surveys and the learning logs, were used as indicators for meaning. This was followed by analysing the qualitative data from the open questions in the learning logs and structured one-on-one interviews to get a more in-depth meaning of the learning experiences of the research participants.

Coding procedure: the data analysis followed the grounded theory coding methods as suggested by Charmaz (2006). The qualitative data went through three coding phases:

1. *Initial coding*: a birds-eye of all the gathered data was taken and written down in first impressions.
2. *Line-by-line coding*: the line-by-line coding had multiple iterations, until the categories were saturated and no strong new categories could be identified by the authors while going through the data once more.
3. *Focused coding*: focused coding began to synthesize and explain larger segments of data in order to find patterns, underlying relationships or issues that directed towards underlying themes.

## Research Design

In order to come to a deeper understanding of the self-reported learner experiences of adult learners engaging in individual and collaborative SDL using multiple devices in a FutureLearn course, it was important to establish which overall elements related to SDL were emerging while studying on the first trial courses rolled out in the FutureLearn platform. The learners had to be studied throughout the duration of the course (covering pre-, during, and post-course experiences and reflections), and with research instruments that allowed the various sub-questions to be answered in a non-directive way (using learning logs).

## Learning environment

The UK led FutureLearn initiative has developed rapidly from 2013 onward and is now rolling out courses for a broad public. The platform offers free courses built upon a socio-constructivist pedagogy which mixes mobile learning and social learning approaches (Sharples, 2013). FutureLearn was chosen as the platform to conduct this research due to its characteristics: enabling mobile access, individual and collaborative options, conversational learning, as well as its instructor-led options. The two trial courses were invitation only courses to enable learners to test the FutureLearn platform before the public courses were rolled out, and as such enable some last moment fixes where necessary.

## Target population and sample

The target population of the study consists of people that indicated an interest in following sample courses from FutureLearn. They could express their interest in these courses by registering for the FutureLearn platform or

answering social media or news article calls for registration. This resulted in more than 1000 people being enrolled in the trial courses of FutureLearn. The courses were rolled out from 27 August 2013 to 10 September 2013. The trial consisted of two courses (The secret Power of Brands and New Ecology), each of them providing two weeks of content and interactions to the participants.

A purposeful sample of 59 FutureLearn course participants was selected from the cohort of learners engaged in FutureLearn. The participants were contacted via email whether they would be willing to be involved in the study. All of the participants who signed the consent form were included in the study. At the end 11 participants were actively participating in all three phases of the research. They completed 19 weekly learning logs and 34 daily learning logs. Additionally, 11 structured interviews were conducted. Polkingthorne (1989) puts forward 5 – 25 people to get a good sample for a phenomenological study, as such the sample in the study reflects a good phenomenological study sample.

## Analysis and results

The findings address the sub-questions by matching the key categories that came out of the coding phase. For ease of reading, the FutureLearn online courses are abbreviated to MOOC in this section.

### Key categories for: What are the elements of daily life affecting the learning experience?

**Time/planning.** Time management and planning was a recurring and frequently mentioned factor. It covered both interferences coming from other commitments, as well as planning learning itself. However, looking for a deeper meaning of that concept, time constraints could come from professional as well as personal interferences, and they could be related to unforeseen events, as well as events that already had the potential of becoming an interfering factor with MOOC learning (e.g. “I was doing the initial registering and watching the first few videos in my work hours and was concerned this may be cheeky taking time at work”).

**Personal traits.** Personal traits are allowed to interfere with the learning (e.g. “laziness”, “general grumpiness with the passing of years”). The personal characteristics are seen as interfering/stimulating factors for interrupting or continuing learning. While looking at the deeper meaning of the data that was shared on personal traits, participants did share that their personal characteristics – or those personality traits they imagined they had – interfered with their learning (e.g. “I started to feel guilty for not engaging with the course [personal goal setting/expectations] and could easily see how this guilt made me less likely to re-engage through procrastination and avoidance”).

**Leisure/casual learning.** Registering for a MOOC comes on top of planned activities or out of curiosity. (e.g.: “Currently studying counselling and welding at the same time as well as trying to learn a new job and do up an old house”). When investigating the deeper meaning of this frequently mentioned casualness towards MOOC learning, the idea rose that MOOC learning might replace other leisure time activities. When questioned on the topic during interviews, learners mentioned that the fact that MOOC were free, and the fact that it did not add to their professional development as main reasons to stop learning at the point they were no longer interested.

**Health as driver.** Health influences learning, but in case of MOOCs, there seems to be an additional benefit for people with health problems. The participation is not always with the aim to participate in all actions or certification, but more to find meaning and solace during difficult times (e.g. “currently off work on long term sickness - so a nice diversion”). This category harboured people who faced health problems themselves, as well as those who were caring for others.

**Personal learner identity.** The personal self-perception of the learning identity influences the learners’ personal learning expectations. This can come from an identity focusing on age, prior learning success or failure, and self-image. E.g. for prior learning and identity: “Lack of recent learning in a constructive way”. An interesting addition to the personal identity came from older learners mentioning age-related self-conscious barriers (e.g. “My age of 85. My short term memory is not what it was!!”).

### Key categories for: What are the technical aspects influencing learning experiences for learners?

The technical aspects were mentioned frequently by the participants. However some of those technical remarks were related to the user interface, or related to the trial stage the courses were in. These remarks were taken out of the data analysis, only those technical remarks related to learning were kept.

**Technology as driver (good/bad).** Technology creativity/capacity included: willingness to face and overcome technological adversity, e.g. “Trying to get a proper run on the videos [getting to grips with content]. Managed to get the videos up and running on the laptop, no joy on the desk top” versus “I gave up early on [personal motivation due to difficulty of access] as struggled to access some parts due to format and slowness of the site”. Technological challenges seem to lead to different results depending on the learner and their learning context, specifically the influencing factors on learning, and the learners’ current learning willingness or capacity.

**Learning mobility.** It is not only about access in a location (e.g. “I was travelling”), but about comfort related to a location (e.g. “The pc is in the study = quiet working space with desk”). Location potentially brings learning opportunities - sitting in a quiet room, or travelling - but it requires the technology to be responsive, so that the focus can be on the learning and not on the technology. (e.g. “ergonomics [of tablet] works well on the couch after a day at the desk” versus “Not all features were available on iPad e.g. the feedback section”). Location and mobility in relation to devices offer opportunities, but the technology might not always fit in with that technology, in that case technology and location offers barriers as well.

**Technology ownership/preference.** Some learners clearly expressed a device preference, which led them to use that device for learning, e.g. “I am a Mac user”. In some cases owning a certain device led those learners test the course with this ‘new’ device for learning purposes.

## **Key categories on: How do the MOOC participants perceive the effect of individual or collaborative learning on their SDL?**

**Collaborative learning.** An interesting aspect was that collaboration or non-collaboration, and specifically learning from others was not limited to other course participants or tutors.

Table 1. data coming from weekly learning logs from learners involved in both courses, answering “who did you interact with for this part of your learning?” (weekly learning logs, n=19)

Result	Percentage
Other course participants	32
People outside of the course	21
One or more course facilitators	11
Nobody	37

Table 1 suggests that 2/3 of the learners did interact with other people. Most social interactions were with other course participants or people outside the course. Interactions with people outside the course is of interest. When asked during interviews the peers external to the course were colleagues, friends, and family. The interviewees mentioned that choosing the external peers to discuss the course content with was not based on the peers’ experience, but rather on their presence in real life and their trust or respect in terms of those peers’ thinking capacities, e.g. “I like the chance to test my thinking out but can also do this by discussing what I have learned with my partner, friends and colleagues too”.

**Interactions with peers.** This includes learning or adjusting learning while engaging with others. (e.g. “Found out how other participants made notes”).

**Individual learning.** Table 1 shows that 37% of the learners does not collaborate. Sometimes this was a reaction on the learner context (e.g. “no one around to help me physically or academically so had to deal with the course on my own per say”). Group size was also mentioned as a barrier for participation (e.g.: “There were too many people on the course for meaningful discussion to take place, so I ended up not participating”), as was individual preference (e.g. “I live on my own, and I like to study on my own”). Reflection was often mentioned as individual learning (e.g. “I did a little more skim reading of discussion than I might have done otherwise and did more mental rather than actually responding to questions.”).

**Interaction expectations.** Some interactions that influenced learning came from non-course peers (e.g. “I have been discussing what I learned on the course with my partner and sharing the ideas with him which I find a useful way to learn interactively outside the course”). A subcategory was the tutors and the course team as motivators. Interactions with the course team or its tutors resulted in a positive learning dynamic for some (e.g. “an email from the course leader thanking people for participation and saying the materials are still available for us to complete encouraged me”), while others perceived it as more of a hindrance to their learning due to the course team not being as responsive as the learner hoped they would be, e.g. “Mailed the course team for helping me with signing in, but still no reply”.

**Confidence in group/self-esteem.** Although this characteristic is touched in factors of daily life (specifically personal traits), it also has a bearing on learning interactions, and whether people are willing to interact, e.g. “the group is too big for me to feel i can usefully contribute to discussion”.

**New virtual interactions.** As the course offers different ways for learners to interact, this results in the learners themselves having to learn how to collaborate with these new technologies (e.g. “Not a fan of ‘social networking site’ type stuff but gave it a bit of a go here and found I did learn from it - so that was a pleasant surprise”). The interactions included an individualistic approach “For me some of the blogging discussion took some getting used to”. The novelty of the interactions also resulted in a change in the learners’ interactions, e.g. “I have decided not to worry too much about the discussions and skim them if they seem interesting but not to feel guilty if I don’t participate”.



## Key categories on: Which actions (if any) did the learners undertake to adapt their learning?

Most of the data related to this sub-question were provided through answers gathered during the learning log and interview phase of the study, as learning adaptations were happening as the course was experienced, or were noticed while reflecting upon the learning after the MOOC was taken.

**Balance known/new.** This category of adaptations looked at how learners moved from what they knew to incorporate what was new in the FutureLearn courses, e.g. “difficulty in dealing with a lot of unstructured comments”. Exploring new technologies for their learning options (e.g. remark on conversational discussions “I changed the way I thought of the discussions – not as ‘discussions’ to contribute to in a logical and more controlled way, but as triggers for thought to dip in and out of and skim randomly”). These adaptations were sometimes based on individually found or constructed adaptations, e.g. “With my previous MOOC, I got into a routine [adapted learning strategy] of when I would watch videos and complete the work each week as it had a coherent structure so I could plan ahead [SDL planning]”.

**Technology as facilitator.** This type of learning adaptation is related to the sub-question on technology, e.g. “started to use the comments/notes function in the course”. But for this sub-question the focus is on making a learning adaptation, not on the technology influencing learning, e.g. “I was able to open two windows with the course on one and Internet searching on the other”.

**Changing learning pace.** This related to dedicating time or adapting the learning approach, e.g. “I felt I had fallen behind with the course as the first week was almost over but I hadn’t completed all of the activities. I put aside some time on my day off to finish week 1”. It might be of interest to see whether this extra time, or change in learning pace, is being influenced by outside factors, for instance an increase in workload (with resulting higher learning pace), or a renegotiation of learning time with family members.

All four sub-questions provided key categories that show that learners are actively mediating and/or adapting their learning inside the trial FutureLearn courses.

## Discussion

Looking at the emerged key categories addressing the four sub-questions, it becomes clear that the learners are active participators in their learning process within FutureLearn courses. They mediate, adapt and direct their learning while taking into account daily events, technical aspects, individual and collaborative preferences and realities, and they adapt their learning actively. As such, the authors conclude that at least some of the learners are actively engaged in Self-Directed Learning within FutureLearn courses. As this study focuses on trial FutureLearn courses, it is clear that a more profound study must follow these first findings. A study that will use full FutureLearn courses as they will be rolled out once FutureLearn has been made publicly available to all internet enabled learners. As such the results from the study only reflect a small part of the insight potential that will emerge once the full FutureLearn courses are investigated in follow ups studies. However, some new questions can be raised based upon studying the trial courses.

Looking at the daily influences, many of the elements listed by Knowles (1975) with regard to motivation and internal incentives emerged (e.g. the need for self-esteem, curiosity, desire to achieve, manage time, and satisfaction of accomplishment), and an additional element was identity, which might be of interest for future research. During the analysis the emerging categories related to SDL also included references from the learners towards self-chosen use of the course resources, and the solutions that learners came up with to solve problems they met either in terms of content, or in terms of using the course technology. All of these experiences point towards SDL as proposed by Knowles (1975). The learner context also emerged as an influencing factor of SDL, as learners rethought learning, were either stimulated or hindered by their life, location or technological options. This puts the learning experiences in parallel with the research conclusions of Garrison (2003), Gunawardena & McIssac (2003), and Song and Hill (2007).

Downes (2013) stated that ‘MOOC success is not individual success’. However, some learners who preferred studying individually for this course did share a sense of successful learning at the end of the course. As such the authors follow the practical and philosophical suggestions of Hendricks (2013) to add an individual approach to learning as well as a collaborative learning approach as having potential for SDL success. Especially when taking into account learning as a subjective process, where the learner directs their learning on the basis of personal motivation. In addition, Downes (2013) did state that “you (as a student) define what counts as success ... That’s why we see many different levels of activity”. This learner success (both based on individual and collaborative learning) came out of this study, and it fits Downes’ statement on the different levels of activity, as individual learners sometimes choose not to interact with others, while more collaboratively oriented learners expanded their knowledge by connecting with peers. Future research might reveal whether individual or collaborative learning actually results in different types of success, or perceptions of success.



Kop, Fournier & Mak (2011) found that prior experience with tools and types of learning used in a MOOC increases chances of success for the learner. Milligan, Margaryan, and Littlejohn (2013) also concluded that learners consider that achieving the level of self-direction necessary for successful learning in a MOOC is related to prior experience and its resulting self-efficacy. Bentley et al. (2013) also claimed that self-efficacy not only supports SDL, it appears to be dynamic, as it grows further with interaction in the MOOC. With this in mind, the authors of this study believe it is important that future research should include a focus on experienced online learners and SDL. By investigating experienced online learners, the recorded discussions on coping with technology might decrease in favour of strategies related to content and interactions, thus enabling a more focused research angle on SDL which transcends the challenges and benefits of the technologies used.

As Kop, Fournier, and Mak (2011) indicated, by manifesting a 'learner-centred' environment, MOOCs can provoke anxiety about presence and orientation in relation to large-scale activity, to which Knox (2014) added a sense of losing identity and individuality. However, in this research the perceived identity was sometimes the driver for registering and following a MOOC. A topic for future research is to explore the extent to which identity contributes to the challenges of SDL.

The sample of this study was big enough for a phenomenological study, but in order to get a deeper understanding of all the elements of self-directed learning, it would be good to increase the sample size. This would imply a multi-level approach, and using a mixed methods approach.

A note of warning also has to be added to the actual data collection. Elicited data from the learners share of course some of the advantages and disadvantages of surveys, interviews and documents. The participants share what they feel comfortable with, which inevitably keeps out what they find consciously or unconsciously personal or irrelevant for the research. Additionally this data collection relies on participants' prior writing and speaking skills and practices (Charmaz, 2006). With the onset of new ways to collect learner data (e.g. through personal learning analytics), more objective measures to gather learning experiences might be possible.

Overall this study adds to the body of knowledge on self-directed learning in the first trial versions of the FutureLearn courses, which provides a partial insight into MOOC courses overall. The follow up study will ensure added insights in full grown FutureLearn courses.

## Conclusion

The authors hope that the paper has given insights into the SDL experiences as self-reported by learners that were engaged in two trial FutureLearn courses. This paper provides a brief overview of SDL and MOOC literature to point out research gaps related to SDL and the full MOOC platform spectrum, as well as SDL in general. By rolling out the rationale behind the research questions and the used methodology, the authors hope to have provided a transparent overview of the study. By sharing the key categories that emerged from the data analysis this study concludes that SDL is indeed taking place in FutureLearn courses, which might indicate that SDL happening in courses across all MOOCs. This study adds to the body of knowledge on self-directed learning in FutureLearn courses.

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